Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Ramsar Site Washington-Slagbaai (5,853 ha) covers almost one quarter of the island. It encompasses 6 salinas/lagoons totalling 408 ha (two of which are former Ramsar Sites; De Slagbaai and Het Gotomeer), some fresh water springs and ponds, some 10 hectares of beach/dune area with small patches of mangroves and a 500 m bufferzone around it (though excluding 219 hectares of agricultural area to the east). The bufferzone itself measures 1433 ha, including 900 ha Caribbean sea with fringing coral reefs, which slopes down to more than 200 m deep. Some 77 ha however are shallow between 0-6 m deep. The site overlaps with the whole Washington-Slagbaai National Park and part of the Bonaire National Marine Park. The majority of the hilly site (which is the water catchment area for the salinas/lagoons) however is covered in low thorny scrub (xerophytic shrublands) and cacti, typical of dry environments. It includes the highest point of the island, Mount Brandaris (241 m). The site provides habitat to most of the island's terrestrial flora and fauna, among which many endemic and globally threatened species like a substantial part of the population of globally threatened Yellow-shouldered Amazons (Amazona barbadensis). More than 200 of the island's 210 known bird species find refuge within the sites boundaries. The salinas/lagoons are important breeding, foraging and roosting sites for residential and migratory wetland birds, among which globally significant numbers of Caribbean flamingos (Phoenicopterus ruber) and Sandwhich terns (Thalasseus sandvicensis). The beaches along the park's shoreline are nesting ground for the globally threatened Green turtle (Chelonia mydas), Hawksbill turtle (Eretmochelys imbricata) and Loggerhead turtle (Caretta carreta). During colony times the site was a large privately-owned agricultural ranch (exporting animals, and producing charcoal and aloe resin). Livestock is still present in the site among which free-roaming pigs, donkeys and many free-roaming goats, which are the most serious threat for the natural environment.
The site is rich in cultural and historical heritage. Some of the island's most important historical landmarks are within the sites boundaries, for example the buildings at Slagbaai, the Seru Bentana lighthouse, the ruins of the Malmok lighthouse and original structures from the early plantations, which now house the Visitor Center.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Wageningen Environmental Research
Postal address	PO Box 47 6700 AA Wageningen The Netherlands

National Ramsar Administrative Authority

Institution/agency	Ministry of Agriculture Nature and Food Quality
Postal address	Bezuidenhoutseweg 73 P.O. Box 20401 2500 EK The Hague The Netherlands

2.1.2 - Period of collection of data and information used to compile the RIS

From year	1980
To year	2017

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Washington Slagbaai
Unofficial name (optional)	Originally designated as two separate sites: 'Het Gotomeer' and 'De Slagbaai'

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes ◉ No ○
(Update) The boundary has been delineated more accurately	☐
(Update) The boundary has been extended	☑
(Update) The boundary has been restricted	☐
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	☐
(Update) The Site has been delineated more accurately	☐
(Update) The Site area has increased because of a boundary extension	☑
(Update) The Site area has decreased because of a boundary restriction	☐
(Update) For secretariat only: This update is an extension	☐

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Yes (actual)
(Update) Are the changes	Positive ◉ Negative ○ Positive & Negative ○
(Update) Positive %	100
(Update) No information available	☐
(Update) Changes resulting from causes operating within the existing boundaries?	☑
(Update) Changes resulting from causes operating beyond the site's boundaries?	☑
(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?	☐

(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)? ☑

(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.

Two sites 'Het Gotomeer' and 'De Slagbaai' have been merged and extended and a buffer zone is added.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes ○

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps: 0

Boundaries description

Washington Slagbaai covers the northwestern tip of Bonaire island, in the Caribbean Netherlands (excluding the Labra-Brasil area). The site fully includes the former Ramsar Sites 'De Slagbaai' and 'Het Gotomeer' as well as the Washington Slagbaai National Park. A 500 m bufferzone around these areas is included within the Ramsar Site, with one exception. The eastside of the Washington Slagbaai NP borders agricultural land. No 500 m bufferzone was added here, which means that the boundary of the Ramsar site coincides with the boundary of the National Park at this location.

The seawards bufferzone runs for 500 m from the highwater mark into the sea. This seaward bufferzone partly overlaps with the Marine National Park.

2.2.2 - General location

a) In which large administrative region does the site lie? Bonaire

b) What is the nearest town or population centre? The park’s entrance lies approximately 3 km northwest from the village of Rincon.

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha): 5853

Area, in hectares (ha) as calculated from GIS boundaries: 5857.252

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Realm: Tropical Atlantic, Province: Tropical North-western Atlantic, Ecoregion: Southern Caribbean.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided	Brauman et al. 2007 recognises five hydrological services, three of which apply to Washington Slagbaai and its bufferzone: 1. Water damage mitigation: this hydrological service concerns reduction of flood damage, dryland salinization, saltwater intrusion and sedimentation (Brauman et al. 2007). It does apply to Wash-ington Slagbaai National Park. The salinas are important for the retention of rain water and erod-ed sediment, making them crucial for the prevention of siltation of the fringing coral reefs, which are crucial features in natural coastal protection. The annual coastal protection values of the coral reefs of Bonaire as a whole for short-term (i.e. within 10 years) and long-term processes (i.e. beyond 10 years) are estimated at $33,000 and $70,000, respectively (Min. EZ, 2013).
Other ecosystem services provided	2. Spiritual and aesthetic: this hydrological service concerns provision of religious, educational and tourism values (Brauman et al. 2007). It does apply to the Washington Slagbaai National Park. Bonairean ecosystems support touristic activities that depend on the quality of the natural environment, such as diving, snorkelling, kayaking, boating, enjoying beaches, bird watching, hiking and other land activities. The tourism sector is an industry with substantial size and financial contribution to the economy of Bonaire. The expenditure by tourists on Bonaire is found to be around $125 million annually. An estimated welfare of around $50 million is contributed by Bon-aire's nature to tourism. The Washington Slagbaai National Park is part of these figures (Min EZ, 2013) as it is an important ecotourism destination. 3. Supporting: this hydrological service concerns water and nutrients to support vital estuaries and other habitats, preservation of options (Brauman et al. 2007). It does also apply to Washington Slagbaai National Park. The fresh water springs for instance provide water for wildlife. The salin-as provide food for e.g. flamingo's and migratory birds that can be enjoyed by bird-watchers, while the retention of rain water and sediments prevents siltation of the reefs, which can be en-joyed by snorkelers and divers. The abundant fresh and brackish water fish species Cyprinodon dearborni (Debrot 2003, Hulsman et al. 2008) (endemic to the Dutch Caribbean Leeward islands) makes a welcome contribution to mosquito control (Source: http://www.dcnanature.org/poecilia-vandepolli/), as the fish feed on mosquito larvae.
Other reasons	The Ramsar site includes six small and larger Salinas and lagoons totaling 408 hectares, as well as fringing coral reefs, sand dunes, beaches, (small patches of) mangroves, fresh water springs and ponds. The majority of the hilly site and water catchment area is covered in low thorny scrub and cacti, typical of dry environments. The diversity of habitats within the site provides a safe haven for much of the South Caribbean biodiversity, among which many endemic and globally threatened species like a substantial part of the population of globally threatened Yellow-shouldered Amazons (Amazona barbadensis). More than 200 of the island's 210 known bird species have been documented within the park's bounda-ries (e.g Voous 1983; Prins et al. 2009). The wetlands are important breeding, foraging and roosting sites for residential and migratory wetland birds, among which globally significant numbers of Caribbean fla-mingos (Phoenicopterus ruber) and Sandwhich terns (Thalasseus sandvicensis). The beaches along the park's shoreline are nesting grounds for the globally threatened Green turtle (Chelonia mydas), Hawksbill turtle (Eretmochelys imbricata) and Loggerhead turtle (Caretta carreta).

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification: The site has a broad range of habitats including salinas, lagoons, sand dunes, beaches, mangroves, fresh water springs, ponds, caves and dry scrub. Much of the South Caribbean biodiversity can be found here. The fringing coral reefs form a good example of relatively healthy and diverse oceanic island reef nearshore systems, which global rarity and significance lies in the relatively high coral cover and high fish biomass. The Site is a sanctuary to seabirds, shorebirds and terrestrial birds, many of which use the site as a stopover on their migratory route. More than 200 of the island's 210 known bird species find refuge within the sites boundaries (e.g Voous 1983; Prins et al. 2009). The beaches are nesting ground for three species of sea turtles.
The site is home to several (sub)species endemic to Bonaire or the Dutch Leeward islands (ABC islands - Aruba, Bonaire, Curacao) among which plants, lizards, land snails, piper glovers and fresh and brackish water fish species.

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

☑ Criterion 6 : >1% waterbird population

3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA / MAGNOLIOPSIDA	*Guaiacum sanctum*	☐	☑	☐	NT	☐	SPAW Annex 3	
TRACHEOPHYTA / MAGNOLIOPSIDA	*Myrcia curassavica*	☐	☑	☐		☐		Rare, endemic tree of Bonaire and Curacao

The site has a few patches of mangroves. All mangrove species are listed under SPAW annex 3. It's not clear however which species grow in the site. The rare species known to date (De Freitas 2008) grow in the dry scrub habitat (see an overview in 4.3.1).

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Others																	
CNIDARIA / ANTHOZOA	*Acropora cervicornis*	☑	☐	☐	☐	☑	☐	☐	☐				CR	☐	☐	SPAW Annex II	Steneck et al. 2011
CNIDARIA / ANTHOZOA	*Acropora palmata*	☑	☐	☐	☐	☑	☐	☐	☐				CR	☐	☐	SPAW Annex II	De Boer, 2010
CNIDARIA / ANTHOZOA	*Agaricia lamarcki*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐	SPAW Annex III	De Boer, 2010
CHORDATA / REPTILIA	*Caretta caretta*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☑	☑	SPAW Annex II	Stapleton et al. 2014
CHORDATA / REPTILIA	*Chelonia mydas*	☑	☑	☐	☐	☑	☐	☐	☐				EN	☑	☑	SPAW Annex III	Stapleton et al. 2014
CHORDATA / REPTILIA	*Cnemidophorus ruthveni*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐		Endemic to Bonaire and Curacao
CNIDARIA / ANTHOZOA	*Dendrogyra cylindrus*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐	SPAW Annex III	Steneck et al. 2011

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CNIDARIA / ANTHOZOA	*Dichocoenia stokesii*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐	SPAW Annex III	Steneck et al. 2011
CHORDATA / REPTILIA	*Eretmochelys imbricata*	☑	☑	☐	☐	☑	☐	☐	☐				CR	☑	☑	SPAW Annex II	Stapleton et al. 2014
CHORDATA / REPTILIA	*Gonatodes antillensis*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐		Endemic to Bonaire and Curacao
CHORDATA / MAMMALIA	*Leptonycteris curasoae*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐	SPAW Annex II	Stapleton et al. 2014; Washington–Slagbaai and surrounding areas have been designated as an AICOM (Area of Importance for Bat Conservation) due to its importance as foraging and roosting habitat for all five bat species on the island.
CNIDARIA / ANTHOZOA	*Orbicella annularis*	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	Listed as EN in the IUCN Red list https://www.iucnredlist.org/species/133134/3592972; SPAW Annex II	Steneck et al. 2011
CNIDARIA / ANTHOZOA	*Orbicella faveolata*	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	Listed as EN in the IUCN Red list https://www.iucnredlist.org/species/133373/3712432; SPAW Annex II	Steneck et al. 2011
CNIDARIA / ANTHOZOA	*Orbicella franksi*	☑	☐	☐	☐	☑	☐	☐	☐					☐	☐	Listed as VU in the IUCN Red list https://www.iucnredlist.org/species/133012/3542659; SPAW Annex III	Steneck et al. 2011
CHORDATA / REPTILIA	*Phyllodactylus martini*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐		Endemic to Bonaire and Curacao
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	*Balistes vetula*	☐	☐	☐	☐	☑	☐	☐	☐	10	2016		NT	☐	☐		De Boer, 2010
MOLLUSCA / GASTROPODA	*Cerion uva*	☐	☐	☐	☐	☐	☐	☐	☐					☐	☐		Endemic to Bonaire and Curacao
CHORDATA / ACTINOPTERYGII	*Cyprinodon dearborni*	☐	☑	☐	☐	☑	☐	☐	☐					☐	☐	Endemic to ABC islands	Debrot 2003; Hulsman et al. 2008
CHORDATA / ACTINOPTERYGII	*Epinephelus itajara*	☑	☐	☐	☐	☑	☐	☐	☐	1	2008		VU	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Epinephelus striatus*	☑	☐	☐	☐	☑	☐	☐	☐				CR	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Hyporthodus niveatus*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Lachnolaimus maximus*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Lutjanus analis*	☐	☐	☐	☐	☑	☐	☐	☐				NT	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Lutjanus cyanopterus*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐		De Boer, 2010
CHORDATA / ACTINOPTERYGII	*Mycteroperca interstitialis*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐		De Boer, 2010
MOLLUSCA / GASTROPODA	*Trapania bonellenae*	☐	☐	☐	☐	☑	☐	☐	☐					☐	☐	Endemic to Bonaire	Valdes, 2009
Birds																	
CHORDATA / AVES	*Amazona barbadensis*	☑	☑	☐	☐	☑	☐	☐	☐	250	2007		VU	☑	☐	SPAW Annex II; IBA criteria: A1, A2, A3	Birdlife International 2012
CHORDATA / AVES	*Charadrius nivosus*	☐	☑	☐	☐	☑	☐	☐	☐	24	2016		NT	☐	☐		Birdlife International 2016
CHORDATA / AVES	*Contopus cooperi*	☐	☑	☐	☐	☑	☐	☐	☐				NT	☐	☐		Birdlife International 2016

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Egretta rufescens*	☐	☑	☐	☐	☑	☐	☐	☐	9	2016		NT	☐	☐		Simal et al. 2011
CHORDATA / AVES	*Elaenia martinica*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	IBA criteria: A2	Birdlife International, 2012
CHORDATA / AVES	*Fulica caribaea*	☐	☑	☐	☐	☑	☐	☐	☐					☐	☐		Birdlife International 2016
CHORDATA / AVES	*Margarops fuscatus*	☐	☑	☐	☐	☑	☐	☐	☐	20	2007		LC	☐	☐	IBA criteria: A2	Birdlife International, 2012
CHORDATA / AVES	*Patagioenas corensis*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	IBA-criteria: A3	Birdlife International, 2012
CHORDATA / AVES	*Pelecanus occidentalis*	☐	☐	☐	☐	☑	☐	☐	☐	48	2015		LC	☐	☐	SPAW Annex II	Simal et al. 2011
CHORDATA / AVES	*Phoenicopterus ruber*	☐	☑	☑	☐	☑	☐	☐	☐	1000	1980-2016	2	LC	☐	☐	SPAW Annex III	foraging in the salinas as well as breeding at Goto lake; http://wpe.wetlands.org/search?form[species]=Phoenicopterus%20ruber; Birdlife International 2016
CHORDATA / AVES	*Setophaga cerulea*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐		Birdlife Interna-tional 2016
CHORDATA / AVES	*Sterna hirundo*	☐	☑	☐	☐	☑	☐	☐	☐	20	2007		LC	☐	☐	IBA criteria: A4	Birdlife International 2016
CHORDATA / AVES	*Sternula antillarum*	☐	☑	☐	☐	☑	☐	☐	☐	412			LC	☐	☐	IBA criteria: A4	Birdlife International 2016
CHORDATA / AVES	*Thalasseus sandvicensis*	☐	☑	☐	☐	☑	☐	☐	☐	360	1980-2016	1	LC	☐	☐	IBA criteria: A4IBA criteria: A4	Birdlife International 2016

1) Percentage of the total biogeographic population at the site

breeding area for waterbirds.

For other non-wetland endemic species see 4.3.2 and a long-list by Debrot (2006).
The marine fish, coral and mollusc species all belong to the 500 m bufferzone of the Ramsar site.
Other endemic species:
Brachypodella gibbonsi, land snail, cannot be found in species list. Endemic to Bonaire.
Leptinaria harterti, land snail, cannot be found in the species list. Endemic to Bonaire.
Neosubulina harterti, land snail, cannot be found in the species list. Endemic to Bonaire.
Stoastomops walkeri, land snail, cannot be found in the species list. Endemic to Bonaire.
Tudora aurantia, land snail, cannot be found in the species list. Endemic to Bonaire.
Tudora maculata, land snail, cannot be found in the species list. Endemic to Bonaire.
Cryptostemma cobbeni, jumping ground bug. Endemic to Bonaire.

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Dry evergreen bush-land (Stoffers 1956)	☑	This is a non-wetland habitat which corresponds with the Coccoloba-Metopium vegetation type (De Freitas et al. 2005).	Tropical dry forests: the most endangered major tropical ecosystem (Janzen, 1988)
Coral reefs	☑	Fringing coral reefs	Despite human-induced impacts, like climate change, Bonaire's reefs are still considered some of the healthiest reefs in the Caribbean (https://www.dcbd.nl/sites/www.dcbd.nl/files/documents/Bionews-Issue-3-StatusofBonairesreef.pdf).

Optional text box to provide further information

The reefs of Bonaire form an outstanding example of healthy and diverse oceanic island reef nearshore systems. The global rarity and significance lies in the relatively high coral cover and high fish biomass which is in close proximity to the inhabited island (Debrot et al., 2017).

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The Ramsar site Washington Slagbaai (4,420 ha) includes six small and larger salinas/lagoons (396 ha). These provide food, brine shrimp and brine fly (De Boer, 1979) for among others the Caribbean flamingo. Healthy populations of the food species depend on the annual cycle of salinities ranging from brackish conditions after rainfall to hypersaline conditions after periods of evaporation. Besides the Salinas the site also covers wetland habitat like sand dunes and beaches (10 ha), small patches of mangrove, fresh water springs and ponds. The majority of the site (and water catchment area) however is covered in low thorny scrub typical of dry environments.

The diversity of habitats within the site provides habitat for much of the South Caribbean biodiversity, among which many endemic and globally threatened species like a substantial part of the population of globally threatened Yellow-shouldered Amazons (Amazona barbadensis).
More than 200 of the island's 210 known bird species find refuge within the park's boundaries. The wet-lands are important breeding, foraging and roosting sites for residential and migratory wetland birds, among which globally significant numbers of Caribbean flamingos (Phoenicopterus ruber) and Sand-which terns (Thalasseus sandvicensis). The beaches along the park's shoreline are nesting ground for the globally threatened Green turtle (Chelonia mydas), Hawksbill turtle (Eretmochelys imbricata) and Logger-head turtle (Caretta carreta).
The bufferzones which extend to the sea covers fringing coral reefs with numerous threatened species.

4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		3	77	Representative
C: Coral reefs		2		Representative
D: Rocky marine shores		0		Representative
E: Sand, shingle or pebble shores		4	10	Representative
J: Coastal brackish / saline lagoons	Salina	1	396	Representative

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		0		Representative
Fresh water > Flowing water >> Y: Permanent Freshwater springs; oases		4	1	Representative

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Dry scrub forest	3873
Human settlements /recreational area	141

(ECD) Habitat connectivity: The site is unfragmented. All habitats are naturally connected.

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	*Abrus precatorius*	A species native to India
TRACHEOPHYTA/POLYPODIOPSIDA	*Adiantum capillus-veneris*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/LILIOPSIDA	*Brassavola nodosa*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Capparis grandis*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Celtis iguanaea*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cynophalla linearis*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Eugenia procera*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/LILIOPSIDA	*Myrmecophila humboldtii*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/MAGNOLIOPSIDA	*Psidium sartorianum*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/LILIOPSIDA	*Sabal causiarum*	Species planted; A species which is native to Hispa-niola, Puerto Rico and the British Virgin Islands.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Schoepfia schreberi*	Rare species on Bonaire (De Freitas 2008)
TRACHEOPHYTA/POLYPODIOPSIDA	*Thelypteris confluens*	Rare species on Bonaire (De Freitas 2008)

Invasive alien plant species

Phylum	Scientific name	Impacts	Changes at RIS update
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cryptostegia grandiflora*	Actual (minor impacts)	No change

Optional text box to provide further information

Maytenus tetragona cannot be found in species list, Rare species on Bonaire (De Freitas 2008)
Maytenus versluysii cannot be found in species list, endemic

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/REPTILIA	*Anolis bonairensis*				
CHORDATA/AVES	*Charadrius alexandrinus*				
CHORDATA/AVES	*Charadrius wilsonia*				

Invasive alien animal species

Phylum	Scientific name	Impacts	Changes at RIS update
ARTHROPODA/INSECTA	*Apis mellifera*	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	*Canis lupus familiaris*	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	*Capra hircus aegagrus*	Actual (major impacts)	increase
CHORDATA/MAMMALIA	*Equus asinus*	Actual (minor impacts)	No change
CHORDATA/MAMMALIA	*Felis catus*	Actual (major impacts)	decrease
CHORDATA/MAMMALIA	*Sus scrofa scrofa*	Actual (major impacts)	decrease

Optional text box to provide further information

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWh: Subtropical desert (Low-latitude desert)

• The 'Salinas' provide food for e.g. flamingos based on their annual cycle of salinities ranging from brackish to hypersaline conditions, as required for healthy populations of brine shrimp and brine fly (De Boer, 1979). Leaky salinas (with a too large inflow of seawater) do not produce effective hyper-saline conditions. Therefore sea level rise will threaten the functioning of these flamingo feeding are-as (Debrot and Bugter 2010).
• Climate change induced global sea level rise will threaten the function of the beaches along the site as sea turtle nesting site (Cheetham 2012, Debrot and Bugter 2010).
• The fringing reefs in the bufferzone are zoned benthic communities and form an important coastal defence against waves. They are already quite vulnerable to extreme weather (Meyer et al., 2003; Bries et al., 2004) and will only become more so with greater water depth in shallow areas (Debrot and Bugter 2010).

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 0

a) Maximum elevation above sea level (in metres): 241

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☐
- Lower part of river basin ☐
- More than one river basin ☐
- Not in river basin ☑
- Coastal ☑

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Southern Caribbean Sea

4.4.3 - Soil

- Mineral ☑
- (Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○
- No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from precipitation	☑	No change
Water inputs from groundwater	☑	No change

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

The water level of the Salinas fluctuates with the conditions of rainfall and evaporation.

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Sediment regime unknown ☐

Please provide further information on sediment (optional):

Overgrazing by feral livestock, like the estimated 11.000 goats (Geurts 2016) causes erosion of soil and sedimentation of salinas. This may results in shallower, warmer and more saline Salinas.

4.4.6 - Water pH

Unknown ☑

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☑

(Update) Changes at RIS update: No change ○ Increase ◉ Decrease ○ Unknown ○

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

(Update) Changes at RIS update: No change ○ Increase ○ Decrease ◉ Unknown ○

Euhaline/Eusaline (30-40 g/l) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Hyperhaline/Hypersaline (>40 g/l) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

Please provide further information on salinity (optional):

The salinity of the springs is fresh, while the salinity of the salinas may range between eusaline and hypersaline depending the impacts of rainfall and vaporisation.

4.4.8 - Dissolved or suspended nutrients in water

Oligotrophic ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

Surrounding area has greater urbanisation or development ☑

Surrounding area has higher human population density ☑

Surrounding area has more intensive agricultural use ☑

Surrounding area has significantly different land cover or habitat types ☑

Please describe other ways in which the surrounding area is different:

The immediate surrounding area to the east consists of lower elevated terrestrial habitat, mainly used for livestock grazing. The site borders the Caribbean sea in the south, west and north. An oil storage terminal is located in the south, at the border of the Caribbean sea.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Low
Recreation and tourism	Nature observation and nature-based tourism	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Long-term monitoring site	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High

Within the site: 30000

Outside the site: 10000

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ◉ No ○ Unknown ○

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

https://www.dcbd.nl/document/whats-bonaires-nature-worth-2011-2012

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland ☐

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☑

Description if applicable

Originally inhabited by native South Americans and later comprising two of the largest and more productive plantations during the colony times, the Washington Slagbaai area is rich in cultural and historical heritage. Some of the island's most important historical landmarks are within the sites boundaries, for example the buildings at Slagbaai, the Seru Bentana lighthouse, the ruins of the Malmok lighthouse and original structures from the early plantations, which now house the park's Visitor Center. The name Slagbaai comes from the Dutch word slachtbaai or slaughterbay, the place from where slaugthered goats were exported from Bonaire to the neighboring island Curacao.

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☐

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland ☐

4.6 - Ecological processes

(ECD) Animal reproductive productivity: The site its important place to reproduction of Cayenne, Royal, Least and Common Tern, also its the second place where American flamingos occasionally nest in Bonaire (STINAPA, CWC 2015)

(ECD) Notable aspects concerning migration: The site is an important stop-over for migratory birds.

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	☑	☑

Provide further information on the land tenure / ownership regime (optional):

Public Entity of Bonaire

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

STINAPA Bonaire
P.O. BOX 368, Bonaire, Dutch Caribbean

Headquarter visitor's address:
Barcadera 10, Bonaire, Dutch Caribbean

Provide the name and/or title of the person or people with responsibility for the wetland:

Director STINAPA: Herman Sieben; Manager: Paulo Bertuol

Postal address:

STINAPA Bonaire
P.O. BOX 368, Bonaire, Dutch Caribbean

Herman Sieben: director@stinapa.org
Paulo Bertuol: washingtonpark@stinapa.org

E-mail address: info@stinapa.org

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Commercial and industrial areas	unknown impact	unknown impact	☑	No change	☑	No change

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	High impact	High impact	☑	decrease	☑	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified	High impact		☑	No change	☑	No change

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact	Medium impact	☑	No change	☑	No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	High impact	High impact	☑	No change	☑	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Industrial and military effluents	Low impact	High impact	☐	No change	☑	No change
Garbage and solid waste	Low impact	Low impact	☑	No change	☑	No change

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Habitat shifting and alteration	Low impact	High impact	☑	increase	☑	increase

Please describe any other threats (optional):

Human settlements (non agricultural) mentioned: Bopec
Biological resource use: Charcoal production by farmers

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Island Park	Brasil-Labra	http://bonairegov.nl/nl/omgeving /natuur-en-milieu/natuurgebieden	partly
National Park	Bonaire National Marien Park	http://www.bmp.org/	partly
National Park	Washington Slagbaai National Park	http://www.bmp.org/	partly

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Washington-Slagbaai Nationaal Park	http://www.birdlife.org/datazone /sitefactsheet.php?id=19153#FurtherInfo	whole

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☑

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Partially implemented
Re-vegetation	Partially implemented

Species

Measures	Status
Reintroductions	Implemented
Control of invasive alien animals	Partially implemented

Human Activities

Measures	Status
Regulation/management of recreational activities	Implemented
Research	Implemented

Other:

• The Structure Plan of Bonaire includes a buffer zone of 500 meters from the high water mark outward to the sea and a 500 meters zone around the former Ramsar Sites De Slagbaai en het Goto. The bufferzone is now an official part of the Ramsar Site designation. The zone was needed to control developments, which can have a negative impact on the Ramsar Site. A 219 ha agricultural area to the east of the site is excluded from the bufferzone. This exclusion is not expected to have a negative impact on the ecological condition of the salinas, as the nearest salinas Matijs and Goto are still well buffered (see map).
• There are plans to extend the Ramsar Site and the Washington/Slagbaai National Park with the Labra-Brasil area which encompasses the salinas Tam (8 ha) and Frans (3 ha) (Wells and Debrot 2008).

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

The Visitor Center, located at the park entrance, is a historic site where most of the original structures from the plantation times are still intact and in use today.
A watchtower has been situated at the Saliña Slagbaai which provides excellent birdwatching opportunities. Some information signs with bird photos were placed so people can easily recognize the different birds.

URL of site-related webpage (if relevant): http://www.washingtonparkbonaire.org/index.html

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Animal species (please specify)	Implemented
Birds	Implemented

Nesting sea turtles
Caribbean Waterbird Census

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

See the Dutch Caribbean Biodiversity Database (www.dcbd.nl) for more information:

References used to compile this RIS:

BirdLife International, 2016. Important Bird and Biodiversity Area factsheet: Washington-Slagbaai National Park, Bonaire. Downloaded from http://www.birdlife.org on 18/05/2016.
Brauman et al., 2007. The Nature and Value of Ecosystem Services: An Overview Highlighting Hydrologic Services. Annu-al Review of Environment and Resources.32:6.1–6.32.
Bries, J.M. et al., 2004. Damage to the leeward reefs of Curaçao and Bonaire, Netherlands Antilles from a rare storm event: Hurricane Lenny, November, 1999. Coral Reefs 23: 297-307.
Cheetham, Jennifer, 2012. The impacts of sea-level rise on the index nesting beach on Klein Bonaire for three species of Sea Turtle. Sea Turtle Conservation Bonaire. 50p.
De Boer, B.A. 1979. Flamingos on Bonaire and in Venezuela. Stinapa Doc. Ser. 3., Carmabi, Curaçao.Debrot A.O., 2003. A Review of the Freshwater Fishes of Curacao, with Com-ments on those of Aruba and Bonaire.
Debrot, A.O. and R. Bugter, 2010. Climate change effects on the biodiversity of the BES islands; Assessment of the possible consequences for the marine and terrestrial ecosystems of the Dutch Antilles and the options for adaptation measures. Wageningen, Alterra, Alter-ra-report 2081; IMARES-report C118/10. 36 blz.
Debrot, Adolphe O., 2006. Preliminary Checklist of Extant and Fossil Endemic Taxa of the ABC Islands, Leeward Antilles. Carmabi.
Debrot, A.O. et al., 2017. Description of the Outstanding Universal Value (OUV) of the Proposed Marine Nomination Properties of the Bonaire and Curaçao Marine Parks (BCMP). Wageningen Marine Research report C003/18 184 pp.
De Freitas, J.A., 2008. Rare plant species, establishment of exclosures and recommenda-tions for a monitoring program in exclosures in the Washington-Slagbaai Park (Bonaire). Carmabi Caribbean Research & management of biodiversity. 163p.
De Freitas, J. et al., 2005. Landscape ecological vegeta-tion map of the island of Bonaire (Southern Caribbean). Carmabi Foundation. 64p.
Geurts, K., 2016. The abundance of feral livestock in the Washington Slagbaai National Park, Bonaire. Master Thesis Wageningen UR. 57p.
Hulsman, H.R. et al., 2008. Effect of introduced species and habitat alteration on the occurrence and distribution of euryhaline fishes in fresh- and brackish-water habitats on Aruba, Bonaire and Curaçao (South Caribbean). Contributions to Zoology, 77 (1) 45-52.
Janzen, D.H., 1988. Tropical dry forests: the most endangered major tropical ecosystem. E.O. Wilson (Ed.), Biodiversity, National Academy Press, Washington, DC: pp. 130-137
Meyer, D.L., et al., 2003. Preservation of in situ reef framework in regions of low hurricane frequency: Pleistocene of Curaçao and Bonaire, southern Caribbean. Lethaia 36: 273-285.
Min. EZ, 2013. What's Bonaire's Nature Worth? The Economics of Ecosystems and Biodiversity on Bonaire. VU Amsterdam & WICKS. 12p.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<2 file(s) uploaded>

vi. other published literature
<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:


Brown Pelican at Slagbaai (*René Henkens, 23-06-2011*)


Historic buildings at Slagbaai (*René Henkens, 23-06-2011*)


Salina Wayaca (*René Henkens, 23-06-2011*)


Fresh water stream Pos Amerikano at Washington-Slagbaai (*Dolfi Debrot, 3-10-2009*)


Salina Goto at Washington-Slagbaai (*John Meulemans, 3-23-2013*)


Salina Goto at Washington-Slagbaai (*John Meulemans, 3-23-2013*)

Flamingo's at Salina Slagbaai, part of Washington Slagbaai (*Dolfi Debrot, 5-10-2009*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	1980-05-23